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EXAMINER	
WANG, QUAN ZHEN	
ART UNIT	**PAPER NUMBER**
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/049,613	Applicant(s) KATAYAMA, MASATOSHI	
	Examiner Quan-Zhen Wang	Art Unit 2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 12 October 2006.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-9 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-9 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Admitted Prior Art (APA) fig. 1 in view of Kurata et al. (U.S. Patent US 5,479,547).

Regarding claim 1, The APA fig. 1 discloses a data transmission system including subscriber units (fig. 1, elements 105a and 105b), the subscriber unit comprising a wavelength division multiplexer/demultiplexer (fig. 1, combination of WDM 131b and terminator 135b in the subscriber 105b) configured to eliminate a particular wavelength signal (fig 1, the wavelength terminated) such that the wavelength division multiplexer/demultiplexer outputs wavelength signals other than the eliminated particular wavelength and prevents further downstream transmission of the eliminated particular wavelength. The APA differs from the claimed invention in that the APA does not specifically disclose that the wavelength multiplexer/demultiplexer includes a first optical waveguide, a second optical waveguide, and a filter positioned such that the first optical waveguide and the second optical waveguide form a junction at the filter. However, the wavelength multiplexer/demultiplexer includes a first optical waveguide, a second optical waveguide, and a filter positioned such that the first optical waveguide

and the second optical waveguide form a junction at the filter is well known and widely used in the art. For example, Kurata discloses a wavelength multiplexer/demultiplexer including a first optical waveguide, a second optical waveguide, and a filter positioned such that the first optical waveguide and the second optical waveguide form a junction at the filter (figs. 1-7). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate the wavelength multiplexer/demultiplexer disclosed by Kurata in the system of the APA in order to utilize the widely applicable waveguide type WDM module that can be manufactured in a simple manner.

Regarding claim 2, Kurata further discloses that the multiplexer/demultiplexer is configured to reflect the particular wavelength signal to reject its input (fig. 4, signal at $\lambda 2$).

Regarding claim 3, Kunikane further teaches that the multiplexer/demultiplexer comprises a reflecting layer (fig. 4, reflecting layer 24) at an input end surface of an optical fiber of the subscriber unit.

3. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Admitted Prior Art (APA) fig. 1 in view of Kurata et al. (U.S. Patent US 5,479,547), and further in view of Kunikane et al. (U.S. Patent US 5,479,547).

Regarding claim 4, the APA and Kurata have been discussed above in regard with claims 1 and 3. The modified system of APA and Kurata differs from the claimed invention in that APA and Kurata do not specifically disclose that the reflecting layer

comprises a dielectric multilayer filter. However, a dielectric multilayer filter is well known and widely used in the art. For example, Kunikane discloses a multiplexer/demultiplexer utilizing a dielectric multilayer filter to reflect a particular wavelength signal to reject its input (column 2, lines 49-50; and column 4, lines 47-48). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate a dielectric multilayer filter, as it is disclosed by Kunikane in the modified system of APA and Kurata to reflect a particular wavelength signal to reject its input in order to use a reflective filter made with the well developed filter making method.

4. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wright et al. (U.S. Patent US 6,411,410 B1) in view of Kurata et al. (U.S. Patent US 5,479,547).

Regarding claim 1, Wright discloses a data transmission system (figs. 2 and 7) including subscriber units (fig. 2, ONU), the subscriber unit comprising a wavelength division multiplexer/demultiplexer (fig. 7, element 42) configured to eliminate a particular wavelength signal such that the wavelength division multiplexer/demultiplexer outputs wavelength signals other than the eliminated particular wavelength and prevents further downstream transmission of the eliminated particular wavelength (column 9, line 53 to column 10, line 14). Wright differs from the claimed invention in that Wright does not specifically disclose that the wavelength multiplexer/demultiplexer includes a first optical waveguide, a second optical waveguide, and a filter positioned such that the first optical

waveguide and the second optical waveguide form a junction at the filter. However, the wavelength multiplexer/demultiplexer includes a first optical waveguide, a second optical waveguide, and a filter positioned such that the first optical waveguide and the second optical waveguide form a junction at the filter is well known and widely used in the art. For example, Kurata discloses a wavelength multiplexer/demultiplexer including a first optical waveguide, a second optical waveguide, and a filter positioned such that the first optical waveguide and the second optical waveguide form a junction at the filter (figs. 1-7). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate the wavelength multiplexer/demultiplexer disclosed by Kurata in the system of Wright and configure the system to output a specific wavelength in order to utilize the widely applicable waveguide type WDM module that can be manufactured in a simple manner.

Regarding claim 2, Kurata further discloses that the multiplexer/demultiplexer is configured to reflect the particular wavelength signal to reject its input (fig. 4, signal at $\lambda 2$).

Regarding claim 3, Kunikane further teaches that the multiplexer/demultiplexer comprises a reflecting layer (fig. 4, reflecting layer 24) at an input end surface of an optical fiber of the subscriber unit.

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wright et al. (U.S. Patent US 6,411,410 B1) in view of Kurata et al. (U.S. Patent US 5,479,547), and further in view of Kunikane et al. (U.S. Patent US 5,479,547).

Regarding claim 4, Wright and Kurata have been discussed above in regard with claims 1 and 3. The modified system of Wright and Kurata differs from the claimed invention in that Wright and Kurata do not specifically disclose that the reflecting layer comprises a dielectric multilayer filter. However, a dielectric multilayer filter is well known and widely used in the art. For example, Kunikane discloses a multiplexer/demultiplexer utilizing a dielectric multilayer filter to reflect a particular wavelength signal to reject its input (column 2, lines 49-50; and column 4, lines 47-48). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate a dielectric multilayer filter, as it is disclosed by Kunikane in the modified system of APA and Kurata to reflect a particular wavelength signal to reject its input in order to use a reflective filter made with the well developed filter making method.

6. Claims 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wright et al. (U.S. Patent US 6,411,410 B1) in view of Kurata et al. (U.S. Patent US 5,479,547), and further in view of Rivoallan (U.S. Patent US 6,130,974).

Regarding claim 5, the modified system of Wright and Kurata differs from the claimed invention in that Wright and Kurata do not specifically disclose that the system comprising an optical fiber with a core and a cladding that covers an external surface of the core, and that has multiple notched formed on the cladding to reflect the particular wavelength signal. However, it is well known in the art that an optical fiber with a core and a cladding that covers an external surface of the core, and that has multiple

notched formed on the cladding to reflect the particular wavelength signal. For example, Rivoallan discloses an optical fiber (fig. 1) having a core (fig. 1, core 12) and a cladding (fig. 1, cladding 12) that covers the external surface of the core, and that has multiple notched formed on the cladding (fig. 1, Dmax and Dmin) to reflect a particular wavelength signal. Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate a multi-notched optical fiber, such as the one taught by Rivoallan, in the modified system of Wright and Kurata in order to improve the efficiency to cut off a wavelength in addition to reflection by diffracting it away during transmission along the fiber.

7. Claims 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Admitted Prior Art (APA) fig. 1 in view of Kurata et al. (U.S. Patent US 5,479,547), and further in view of Rivoallan (U.S. Patent US 6,130,974).

Regarding claim 5, the modified system of APA and Kurata differs from the claimed invention in that APA and Kurata do not specifically disclose that the system comprising an optical fiber with a core and a cladding that covers an external surface of the core, and that has multiple notched formed on the cladding to reflect the particular wavelength signal. However, it is well known in the art that an optical fiber with a core and a cladding that covers an external surface of the core, and that has multiple notched formed on the cladding to reflect the particular wavelength signal. For example, Rivoallan discloses an optical fiber (fig. 1) having a core (fig. 1, core 12) and a cladding (fig. 1, cladding 12) that covers the external surface of the core, and that has

multiple notched formed on the cladding (fig. 1, Dmax and Dmin) to reflect a particular wavelength signal. Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate a multi-notched optical fiber, such as the one taught by Rivoallan, in the modified system of APA and Kurata in order to improve the efficiency to cut off a wavelength in addition to reflection by diffracting it away during transmission along the fiber.

8. Claims 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wright et al. (U.S. Patent US 6,411,410 B1) in view of Kurata et al. (U.S. Patent US 5,479,547) and further in view of Ellison et al. (U.S. Patent US 6,556,757).

Regarding claim 6, Wright and Kurata have been discussed above in regard with claim 1. The modified system of Wright and Kurata differs from the claimed invention in that Wright and Kurata do not specifically disclose that the wavelength division multiplexer/demultiplexer comprises an optical waveguide that is made of a polymer and absorbs a signal with a wavelength of 1650 nm, which is employed as the particular wavelength signal. However, Ellison et al. from the same field of endeavor teach an optical fiber made of a polymer (Column 2, line 26) and absorbs a signal with a wavelength of 1650 nm, which is employed as the particular wavelength (absorption about a dB per meter at 1650nm, Fig.7). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate a fiber, such as the one disclosed by Ellison, for the fiber in the subscriber transmission system of Wright and Kurata to obtain a further effective attenuation of a wavelength by

absorbing it when it propagates in the core and polymeric cladding layers of the fiber in addition to diffracting and reflecting it.

9. Claims 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Admitted Prior Art (APA) fig. 1 in view of Kurata et al. (U.S. Patent US 5,479,547) and further in view of Ellison et al. (U.S. Patent US 6,556,757).

Regarding claim 6, APA and Kurata have been discussed above in regard with claim 1. The modified system of APA and Kurata differs from the claimed invention in that APA and Kurata does not specifically disclose that the wavelength division multiplexer/demultiplexer comprises an optical waveguide that is made of a polymer and absorbs a signal with a wavelength of 1650 nm, which is employed as the particular wavelength signal. However, Ellison et al. from the same field of endeavor teach an optical fiber made of a polymer (Column 2, line 26) and absorbs a signal with a wavelength of 1650 nm, which is employed as the particular wavelength (absorption about a dB per meter at 1650nm, Fig.7). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate a fiber, such as the one disclosed by Ellison, for the fiber in the subscriber transmission system of APA and Kurata to obtain a further effective attenuation of a wavelength by absorbing it when it propagates in the core and polymeric cladding layers of the fiber in addition to diffracting and reflecting it.

10. Claims 7 and 8 are rejected under U.S.C. 103(a) as being unpatentable over Kunikane et al. (US Patent No: 5,479,547) in view of Wright et al. (U.S. Patent US 6,411,410 B1) and Feldman et al. (US Patent No: 6,577,414) and further in view of Kurata et al. (U.S. Patent US 5,479,547).

Regarding claim 7, Kunikane discloses a data transmission system (fig.15) including subscriber units (fig.15, unit 5 in home 2) configured to interconnect with and a central office unit (fig.15, combination of office 1 and distributor S) via optical fibers (fig.15, the fiber between S and subscriber unit 5), the central office unit is configured to multiplex a video signal (fig.15, video signal input to the central office 1; column 1, lines 50-51) with signals other than the video signal (column 1, line 45) to deliver them to the subscriber units (fig. 15, subscriber units 5 in home 2), wherein each subscriber unit is configured to demultiplex (fig. 15, WDM in subscriber units 5) a received signal; the subscriber units comprising a wavelength division multiplexer/demultiplexer (fig. 15, WDM in the subscriber units 5) configured to eliminate a particular wavelength signal (fig. 15, λ2) from the subscriber unit (fig. 15, subscriber unit 5); the central office unit comprises an optical distributor (fig. 15, S) configured to distribute the video signal and supplying it to a wavelength division multiplexer/demultiplexer. The communication system of Kunikane differs from the claimed invention in that Kunikane does not specifically disclose that the division multiplexer/demultiplexer is configured to prevent the eliminated particular wavelength from further downstream transmission of the eliminated particular wavelength. However, it is well known in the art that a division multiplexer/demultiplexer can be configured to eliminate a particular wavelength signal

such that the wavelength division multiplexer/demultiplexer outputs wavelength signals other than the eliminated particular wavelength and prevents further downstream transmission of the eliminated particular wavelength. For example, Wright discloses a communication system comprising a division multiplexer/demultiplexer (fig. 7, element 42) configured to eliminate a particular wavelength signal such that the wavelength division multiplexer/demultiplexer outputs wavelength signals other than the eliminated particular wavelength and prevents further downstream transmission of the eliminated particular wavelength. Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate a division multiplexer/demultiplexer, such as the one taught by Wright, and configure the multiplexer/demultiplexer to eliminate a particular wavelength signal such that the wavelength division multiplexer/demultiplexer outputs wavelength signals other than the eliminated particular wavelength and prevents further downstream transmission of the eliminated particular wavelength in the system of Kunikane in order to output a predetermined signals for a particular customer. The modified communication system of Kunikane and Wight further differs from the claimed invention in that Kunikane and Wight do not specifically disclose that an optical amplifier is configured to amplify the video signal to be transmitted. However, an optical amplifier is well known in the art. For example, Feldman teaches using an optical amplifier (fig. 1, amplifiers 114 and 128) for amplifying the video signal to be transmitted. Therefore it would have been obvious to a person having ordinary skill in the art at the time of the invention to incorporate an optical amplifier, such as the one disclosed by Feldman, in the central office of the

transmission system of Kunikane and Wright in order to increase the signal strength to further increase the transmission distance. The modified system of Kunikane, Wright, and Feldman further differs from the claimed invention in that Kunikane, Wright and Feldman do not specifically disclose that the wavelength multiplexer/demultiplexer includes a first optical waveguide, a second optical waveguide, and a filter positioned such that the first optical waveguide and the second optical waveguide form a junction at the filter. However, the wavelength multiplexer/demultiplexer includes a first optical waveguide, a second optical waveguide, and a filter positioned such that the first optical waveguide and the second optical waveguide form a junction at the filter is well known and widely used in the art. For example, Kurata discloses a wavelength multiplexer/demultiplexer including a first optical waveguide, a second optical waveguide, and a filter positioned such that the first optical waveguide and the second optical waveguide form a junction at the filter (figs. 1-7). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate the wavelength multiplexer/demultiplexer disclosed by Kurata in the modified system of Kunikane, Wright, and Feldman in order to utilize the widely applicable waveguide type WDM module that can be manufactured in a simple manner.

Regarding claim 8, Kunikane teaches a data transmission system (fig. 15) including subscriber units (fig. 15, subscriber unit 5 in home 2) configured to interconnect with and a central office unit (fig. 15, combination office 1 and distributor S) via optical fibers (fig.15, the fiber between S and subscriber unit 5), the central office unit is configured to multiplex a video signal (fig.15, video signal input to the central

office 1; column 1, lines 50-51) with signals other than the video signal (column 1, line 45) to deliver them to the subscriber units (fig. 15, subscriber units 5 in home 2), wherein each subscriber unit is configured to demultiplex (fig. 15, WDM in subscriber units 5) a received signal; the subscriber units comprising a wavelength division multiplexer/demultiplexer (fig. 15, WDM in the subscriber units 5) configured to eliminate a particular wavelength signal (fig. 15, $\lambda 2$) from the subscriber unit (fig. 15, subscriber unit 5); an optical distributor (fig. 15, S) configured to distribute the video signal and supplying it to a wavelength division multiplexer/demultiplexer. The communication system of Kunikane differs from the claimed invention in that Kunikane does not specifically disclose that the division multiplexer/demultiplexer is configured to prevent the eliminated particular wavelength from further downstream transmission of the eliminated particular wavelength. However, it is well known in the art that a division multiplexer/demultiplexer can be configured to eliminate a particular wavelength signal such that the wavelength division multiplexer/demultiplexer outputs wavelength signals other than the eliminated particular wavelength and prevents further downstream transmission of the eliminated particular wavelength. For example, Wright discloses a communication system comprising a division multiplexer/demultiplexer (fig. 7, element 42) configured to eliminate a particular wavelength signal such that the wavelength division multiplexer/demultiplexer outputs wavelength signals other than the eliminated particular wavelength and prevents further downstream transmission of the eliminated particular wavelength. Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate a division

multiplexer/demultiplexer, such as the one taught by Wright, and configure the multiplexer/demultiplexer to eliminate a particular wavelength signal such that the wavelength division multiplexer/demultiplexer outputs wavelength signals other than the eliminated particular wavelength and prevents further downstream transmission of the eliminated particular wavelength in the system of Kunikane in order to output a predetermined signals for a particular customer. The modified communication system of Kunikane and Wight further differs from the claimed invention in that Kunikane and Wight do not specifically teach that the central office unit comprises a plurality of video signal generators configured to generate video signals with different wavelengths; a first wavelength division multiplexer/demultiplexer configured to multiplex the generated video signals; and an optical amplifier is configured to amplify the video signal to be transmitted and a plurality of video signal generators. However, Feldman teaches a central office unit that comprises a plurality of video signal generators for generating video signals with different wavelengths (fig. 5, λ1 to λn; column 2, lines 65-67 and column 3, lines 1-22); a first wavelength division multiplexer/demultiplexer (fig. 5, λ MUX) for multiplexing the video signals supplied from said plurality of video signal generators; an optical amplifier (fig. 1, amplifier 128 and fig. 4, amplifier 437) for amplifying the video signal to be transmitted in a subscriber fiber-to-the-home CATV broadcast system (fig. 1, element 180). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate an optical amplifier, a plurality of video signal sources with different wavelengths and two wavelength division multiplexer/demultiplexers, such as those taught by Feldman, in the

central office unit of the communication system of Kunikane in order to transmit video signals obtained from video signal sources with different wavelengths together with signal other than video signals to subscribers. The modified system of Kunikane, Wright, and Feldman further differs from the claimed invention in that Kunikane, Wright and Feldman do not specifically disclose that the wavelength multiplexer/demultiplexer includes a first optical waveguide, a second optical waveguide, and a filter positioned such that the first optical waveguide and the second optical waveguide form a junction at the filter. However, the wavelength multiplexer/demultiplexer includes a first optical waveguide, a second optical waveguide, and a filter positioned such that the first optical waveguide and the second optical waveguide form a junction at the filter is well known and widely used in the art. For example, Kurata discloses a wavelength multiplexer/demultiplexer including a first optical waveguide, a second optical waveguide, and a filter positioned such that the first optical waveguide and the second optical waveguide form a junction at the filter (figs. 1-7). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate the wavelength multiplexer/demultiplexer disclosed by Kurata in the modified system of Kunikane, Wright, and Feldman in order to utilize the widely applicable waveguide type WDM module that can be manufactured in a simple manner.

11. Claim 9 is rejected under U.S.C. 103(a) as being unpatentable over Kunikane et al. (US Patent No: 5,479,547) in view of Wright et al. (U.S. Patent US 6,411,410 B1)

and Schmack et al. (US Patent No: 4,481,621) and further in view of Kurata et al. (U.S. Patent US 5,479,547).

Regarding claim 9, Kunikane discloses a data transmission system (fig.15) including subscriber units (fig.15, unit 5 in home 2) configured to interconnect with and a central office unit (fig.15, combination of office 1 and distributor S) via optical fibers (fig.15, the fiber between S and subscriber unit 5), the central office unit is configured to multiplex a video signal (fig.15, video signal input to the central office 1; column 1, lines 50-51) with signals other than the video signal (column 1, line 45) to deliver them to the subscriber units (fig. 15, subscriber units 5 in home 2), wherein each subscriber unit is configured to demultiplex (fig. 15, WDM in subscriber units 5) a received signal; the subscriber units comprising a second wavelength division multiplexer/demultiplexer (fig. 15, WDM in the subscriber units 5) configured to eliminate a particular wavelength signal (fig. 15, $\lambda 2$) from the subscriber unit (fig. 15, subscriber unit 5). The communication system of Kunikane differs from the claimed invention in that Kunikane does not specifically disclose that the division multiplexer/demultiplexer is configured to prevent the eliminated particular wavelength from further downstream transmission of the eliminated particular wavelength. However, it is well known in the art that a division multiplexer/demultiplexer can be configured to eliminate a particular wavelength signal such that the wavelength division multiplexer/demultiplexer outputs wavelength signals other than the eliminated particular wavelength and prevents further downstream transmission of the eliminated particular wavelength. For example, Wright discloses a communication system comprising a division multiplexer/demultiplexer (fig. 7, element

42) configured to eliminate a particular wavelength signal such that the wavelength division multiplexer/demultiplexer outputs wavelength signals other than the eliminated particular wavelength and prevents further downstream transmission of the eliminated particular wavelength. Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate a division multiplexer/demultiplexer, such as the one taught by Wright, and configure the multiplexer/demultiplexer to eliminate a particular wavelength signal such that the wavelength division multiplexer/demultiplexer outputs wavelength signals other than the eliminated particular wavelength and prevents further downstream transmission of the eliminated particular wavelength in the system of Kunikane in order to output a predetermined signals for a particular customer. The modified communication system of Kunikane and Wight further differs from the claimed invention in that Kunikane and Wight do not specifically teach that the subscriber unit comprises a first wavelength division multiplexer/demultiplexer configured to demultiplex the video signals and signals other than video signal. However, Schmack et al. from the same field of endeavor teach a subscriber unit (fig. 2) comprises of a wavelength division multiplexer/demultiplexer (fig. 2, BB-DMUX) for demultiplexing the video signals and signals other than video signal (fig. 2, BB-DMUX, TV, ST, SB; column 2, lines 60-67 and column 3, lines 1-3). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate a to multiplexer/demultiplexers, such as the one taught by Schmack, in the communication system of Kunikane et al. in order for the received signals to be demultiplexed in the first

multiplexer/demultiplexers into the original video signals and signals other than video signal before being sent to the second wavelength division multiplexer/demultiplexer of Kunikane in order to reduce crosstalk interference happening in between video signals and signals other than video signal. The modified system of Kunikane, Wright, and Schmack further differs from the claimed invention in that Kunikane, Wright and Schmack do not specifically disclose that the wavelength multiplexer/demultiplexer includes a first optical waveguide, a second optical waveguide, and a filter positioned such that the first optical waveguide and the second optical waveguide form a junction at the filter. However, the wavelength multiplexer/demultiplexer includes a first optical waveguide, a second optical waveguide, and a filter positioned such that the first optical waveguide and the second optical waveguide form a junction at the filter is well known and widely used in the art. For example, Kurata discloses a wavelength multiplexer/demultiplexer including a first optical waveguide, a second optical waveguide, and a filter positioned such that the first optical waveguide and the second optical waveguide form a junction at the filter (figs. 1-7). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate the wavelength multiplexer/demultiplexer disclosed by Kurata in the modified system of Kunikane, Wright, and Schmack in order to utilize the widely applicable waveguide type WDM module that can be manufactured in a simple manner.

Response to Arguments

12. Applicant argues that WDM 131b of APA does not disclose or suggest the claimed "the wavelength division multiplexer/demultiplexer outputs wavelength signals other that the eliminated particular wavelength and prevents further downstream transmission of the eliminated particular wavelength." However, "USPTO personnel are to give claims their broadest reasonable interpretation in light of the supporting disclosure." In re Morris, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997). "During patent examination the pending claims must be interpreted as broadly as their terms reasonably allow.... ". For the instant case, the combination of 131b and 135b of the APA is interpreted as the "WDM". As it can be seen from the APA fig. 1 that the "WDM" only outputs wavelength signals other that the eliminated particular wavelength and prevents further downstream transmission of the eliminated particular wavelength.

13. Applicant's other arguments file on October 12, 2006 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Ozawa (U.S. Patent US 5,960,135) discloses an optical integrated circuit for bidirectional communication systems. Albanese at al. (U.S. Patent US 4,712,859) discloses a multiplexer/demultiplexer unit with an absorber.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quan-Zhen Wang whose telephone number is (571) 272-3114. The examiner can normally be reached on 9:00 AM - 5:00 PM, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

qzw
12/5/2006

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